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ABSTRACT

A study examined the degree to which states are working on integrating vocational-technical education and instruction in basic academic skills. Usable information was provided by 29 of the 30 states contacted. Nearly all of the states belong to one or more of the various consortia developing the applied math, communications, principles of technology, and applied biology programs. Ten states are using the Agency for Instructional Technology (AIT) and Center for Occupational Research and Development (CORD) applied academic products without adaptations, and 10 are using the programs with major additions or adaptations. Nine states are writing their own curricula or working on developing their own system of infusing academic content into vocational offerings. Half of the states questioned indicated that the primary emphasis on vocational-academic infusion was at the state level. Eleven states either have not dealt with the question of academic credit for vocational experience or are in the very early stages of doing so. In most states, credit-granting capability is a local option rather than a state policy. Teacher certification was a major concern expressed by all respondents. (MN)

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Integrating Vocational-Technical Education and Basic Academic Skills

A Status Report

Prepared for the Fall Conference
of the
National Association of State Directors of Vocational Education

Phoenix, Arizona
September 28, 1988

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U.S. DEPARTMENT OF EDUCATION
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Integrating
Vocational-Technical Education
and
Basic Academic Skills

A Status Report

Today, as never before, vocational-technical education is challenged to meet the widely varying needs of students from increasingly diverse backgrounds. Today, as never before, vocational-technical education is challenged to meet the needs of business and industry for workers that are conversant in the basic academic skills, and skilled in performing the tasks required to be productive employees.

I think we can all agree that ideally, basic academic skills should be learned in the traditional academic programs of our schools of public education. However, as we also know, those basic academic skills are either not being provided during the early years of schooling, or the students are not learning them.

Whatever the reasons, today we find ourselves as a country poorly prepared to be totally competitive in the world market place, a country where business and industry tells us that they are having to do too much of the training, and at the same time, says "give us people who can get to work on time, we'll do the rest."

Regardless of mixed messages, we in vocational-technical education find ourselves at a critical juncture in our history. At every turn we see reports and calls for changes in our programs, in the methods we use to deliver vocational-technical education, and finally, calls to change the content of our programs to better meet the changes that we are experiencing in our society.

From the federal level we receive mixed signals, on one hand an effort to abolish vocational education through removal of funding, and on a more positive vein, the encouragement of legislation that would support the integration of basic skills into the vocational education curriculum.

National Efforts

I am pleased to report to you today that we in vocational-technical education are responding to the calls for change, and not only responding, but responding in many innovative and exemplary manners. Vocational-technical education has always provided instruction in basic academic skills required to competently perform on the job. However, it required the impetus of a major national study, A Nation at Risk, for our profession to begin to emphasize our abilities in basic academic skill building as it relates to our primary goal, providing individuals with required workplace performance skills.

When the impact of A Nation at Risk and numerous related reports began to be felt through increasing graduation requirements and the related decrease in opportunities for students to participate in vocational programs, it became apparent that we did in fact need to change our mode of operation. As all of you know, vocational education has been responsive to the call for change.

One of the first, if not the first major national effort supported by vocational education designed to integrate academic and vocational-technical education was the Principles of Technology (PT) program, developed through a joint effort of the Agency for Instructional Technology (AIT) and the Center for Occupational Research and Development (CORD). This seminal program was the first of several designed to integrate specific academic content into our vocational programming. Following the "PT" project were the Applied Mathematics program by CORD and the Applied Communications program by AIT. Both of these projects are in the early stages of nationwide implementation. The National Center for Research in Vocational Education at The Ohio State University has contributed to the effort through research, materials, and technical assistance on a continuing basis.

The Southern Regional Education Board (SREB) has provided support to the effort through the establishment of pilot sites where basic competencies will be emphasized and secondly, has

promoted the identification and dissemination of strategies designed to enhance the quality and quantity of basic skill instruction.

The most recent applied program, Applied Biology/Chemistry, is being developed by CORD. This is a multi-state sponsored program designed to complete the major applied programs available to vocational-technical and academic students.

The Vocational-Technical Education Consortium of States (V-TECS) is implementing a system that shows long-term promise for the basic academic skills integration process. This system is unique in that a taxonomy of basic academic skills provides the research base required to consistently identify the academic content of any given occupation or vocational program on a task by task basis.

The V-TECS system will provide a method of identifying and validating vocational-technical program basic academic skill content for credit and pedagogical purposes, using a common format across vocational programs and participating states. If we are to "encourage the integration of basic skills into vocational education curricula", quoting from a Federal Register Perkins Act "Issues for Public Comment" topic, we must have a common language and process for this long term effort. The V-TECS occupational analysis system will provide us with that common language and process.

State and Local Efforts

As one might expect, much of the response by our profession to the call for greater integration of academic and vocational education is at the state and local level. To provide information on state and local activities for this report, a member of my staff conducted a telephone survey of the states to identify some of the academic and vocational education integration activities at the state and local level.

The specific contact in each state was the individual identified as the State Liaison Representative (SLR) to the National Network for Curriculum Coordination in Vocational-

Technical Education, the NNCCVTE. As you are aware, in a study of this type conducted over a relative limited time frame, we have what can be called a snapshot, at best.

To provide a degree of consistency across states, a set of specific questions were asked of each responding state level contact, with the items as follows:

QUESTIONS ASKED STATES

1. Is your state working on integrating vocational education and academics?
2. If so, what is the process?
3. Is the process at the state or the local level?
4. Do you have an existing state board policy that can be shared?
5. What has been done in your state regarding:
   a. Providing academic credit for vocational programs,
   b. changing certification requirements for undergraduates, for counselors, for administrators, and
   c. establishing in-service for teachers in the field.
6. What else is being done regarding the integration of vocational education and academics?

Although this is a very simplistic approach to information collection, we were quite successful in determining the trends across the country. I will relate what could be called "thumbnail sketches" of the activities, and further information relative to each state's specific response is included in the appendix of this report.

Thirty states were contacted, 29 of which provided us with usable information. Nearly all of the states belong to one or more of the various consortia developing the Applied Math, Communications, Principles of Technology, and Applied Biology programs. Fifteen of the states belong to V-TECS, and several are participating in the SREB effort.

Ten states are using AIT and CORD applied academic products without adapttaions, while ten are using the programs with major additions or adaptations.

Nine states that responded are writing their own curriculum or working on developing their own system of infusing academic content into vocational offerings.

Interestingly enough, one-half of the responding states

indicated that the primary emphasis on vocational-academic infusion was at the state level, and the remaining fifty percent indicted an emphasis on activities at the local level.

Thirteen of the states reported either state board policy or legislation concerning academic-vocational program relationships. Some example of state board policy or legislation, by no means all inclusive, are:

- Illinois - Education for Employment standards.
- Florida - State board regulations concerning the integration of academic and vocational education.
- Georgia - State board approval of pilot projects.
- Texas - "Essential Elements" - competency statements mandated by legislation.
- Vermont - state legislation requiring the integration of academic and vocational programing.
- Washington - State board policy giving local districts autonomy in determining whether a particular course satisfies more than one subject area requirement.
- Pennsylvania - State board requirements concerning substitution of vocational education courses for academic credit.

Eleven of the states either haven't dealt with the question of academic credit for vocational program experience, or they are at a very early stage in the process, while eight of the states dealt with the question at the local level. Contrasting with these figures, ten states are granting academic credit on a state-wide level. The problems associated with granting academic credit for vocational program completion remains one of the more challenging aspects of the basic academic skill integration process.

In most of the states that have a credit granting capability, it would seem to be a local option rather than a state policy. A cursory review of the states responses would indicate that various agriculture education courses, either as they stand or with modifications, are receiving some type of science credits. Principles of Technology programs are a mixed bag, with some states granting full science credit, some partial credit such as a "two for one" situation, and some choosing to grant vocational credit for PT. Business education courses, primarily accounting and business communication seem to be

somewhat successful in garnering credit. It is still too early to determine the success of the Applied Math and Applied Communications programs in meeting credit needs.

In many instances, the entity that seems to be making decisions relative to the value of courses for credit are boards of regents. In most of the states, the regents establish entry level requirements for college entrance, and this is the determining factor as to the "quality" of a credit. What this means, of course, is the title of the course drives the acceptance decision, regardless of the content of the program. This may provide our greatest challenge in the future.

One of the major concerns shared by all respondents is that of teacher certification. Five of the states surveyed required an academically certified teacher to teach integrated courses, eight are beginning to look at certification requirements, and 14 haven't dealt with certification to this date. Certification is one of the greatest challenges to the integration effort, especially as it relates to the applied programs. As one would expect, there appears to be no single answer to the problem, but one that has to be dealt with in each state.

In the long term, the assessment of student basic academic skills learned in a vocational program coupled with instructor testing may be the most sucessful method of dealing with certification. A testing process is also in line with our long term goal of providing students with saleable skills. Testing helps avoid the certification issue, in that demonstrated sucess seems to provide a better argument for providing credit than relying on vocational instructors receiving academic certification.

Regarding the question of in-service as it relates to the academic-vocational question, 16 of the states are providing it directly, while five states are "looking at it." Two states do not provide in-service relating to the topic.

Arizona has been pursuing the academic-vocational question in excess of two years, and has made significant progress in the

effort. A systematic approach to the problem was developed, and a Taxonomy of the "Arizona Essential Skills" was identified for use in both occupational and academic analysis. The taxonomy has been shared with the V-TECS consortium, and expanded to include the basic academic skills, essential elements, "core", and other identifiers used by individual states. We are presently using the taxonomy process to analyze the mathematics, accounting, and electronics program areas to arrive at an equivalent credit recommendation for our board.

Conclusion

As can be seen from this brief report, vocational-technical education is responding to the need for change in a variety of methods, rising to meet the challenges posed by both friends and those that are less than supportive of our endeavors. Internally, our challenge is to not lose sight of our primary purpose, providing vocational-technical programs that will allow students at all levels to become productive members of society. We need to assure that we balance our offerings in such a manner that they will meet the needs of students, and the needs of business and industry for a qualified, productive workforce.

We do have continuing challenges, but we will continue to meet those challenges, providing the types of educational and training experiences that will meet the needs of our most valued clients, students.

Thank you.

APPENDIX

QUESTIONS ASKED STATES

1. Is your state working on integrating vocational and academics?
2. Who is doing it? What is the process?
3. Is the process at the state or the local level?
4. Do you have existing state board policy that can be shared?
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs,
   b. changing certification requirements for undergraduates, for counselors, for administrators, and
   c. establishing in-service for teachers in the field.
6. What else is being done regarding the integration of vocational education and academics?

NOTE: If there was no response to an item, it was deleted from a states response. It is also important to state that these notes are very raw data, and as such they may be incomplete. For further information relative to a states response, please call the noted contact.

ALABAMA
JIM KENDRICKS-SLR- (205)261-5238

1. Is your state working on integrating vocational and academics?
YES
2. Who is doing it? What is the process?
SREB PILOT TEST SITE. PILOT TESTING SERIES OF ACTIVITIES TO INTEGRATE APPLIED MATH, COMMUNICATION AND PT. IDENTIFIED IN THE VOCATIONAL CURRICULUM WHERE SPECIFIC SKILLS RELATE TO STATE COMPETENCY TESTS. IDENTIFIED WHERE THOSE SKILLS WERE TAUGHT IN THE VOCATIONAL CURRICULUM USING DOE WITH COMMITTED OF TEACHERS.
3. Is the process at the state or the local level? DOE LEVEL
4. Do you have existing state board policy that can be shared?
NO MANDATES
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs,
   STATE SUPT. APPOINTING A TASK FORCE
   b. changing certification requirements for undergraduates, for counselors, for administrators,
   TASK FORCE SITTING NOW and
   c. establishing in-service for teachers in the field
   SAME TASK FORCE TAKING CARE OF IT.

ARIZONA
Charles Losh -SLR- (602)255-5352
1. Is your state working on integrating vocational and academics?
YES
2. Who is doing it? What is the process?
THE PROCESS IS BEING ESTABLISHED THROUGH A RESEARCH GRANT TO DR. LES SNYDER AT ARIZONA STATE UNIVERSITY. A BASIC SKILLS TAXONOMY HAS BEEN SYNTHESIZED, AND A SYSTEMATIC ANALYSIS PROCESS IS BEING DEVELOPED TO DETERMINE AND VERIFY THE BASIC ACADEMIC SKILLS EMBEDDED IN ACADEMIC AND VOCATIONAL OFFERINGS.
3. Is the process at the state or the local level?
THE ANALYSIS PROCESS IS BEING ESTABLISHED AT THE STATE LEVEL WITH AN ALTERNATIVE PROCESS FOR USE AT THE LOCAL LEVEL. BOTH USE THE TAXONOMY AS THE COMMON LINKAGE ACROSS PROGRAMS.
4. Do you have existing state board policy that can be shared?
WE WILL PRESENT OUR INITIAL FINDINGS AND REQUEST FOR AN EQUIVALENT CREDIT PROCESS TO OUR STATE BOARD AT THE OCTOBER 1988 MEETING.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, SEE #4
   b. changing certification requirements for undergraduates, for counselors, for administrators, A TASK FORCE IS BEING ESTABLISHED and
   c. establishing in-service for teachers in the field ON GOING FOR EXISTING APPLIED PROGRAMS.
6. What else is being done regarding the integration of vocational education and academics?

ARKANSAS
JIM ADAMS-SLR-(501)682-1407
SUSAN HOLOPOFF (BASIC SKILLS) (501) 6822-1855
1. Is your state working on integrating vocational and academics?
YES
2. Who is doing it? What is the process?
STATE AND LOCAL COMBINATION USING SREB GOALS AND COMMITTEES OF ACADEMIC AND VOCATIONAL TEACHERS
3. Is the process at the state or the local level?
BOTH
4. Do you have existing state board policy that can be shared?
YES, MINIMUM PERFORMANCE TEST MANDATED BY THE ARKANSAS GENERAL ASSEMBLY
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, PLANNED SPECIAL DIPLOMA FOR OUTSTANDING VOCATIONAL COMPLETERS
6. What else is being done regarding the integration of vocational education and academics? APPLIED MATH, COMMUNICATION, PT

CALIFORNIA
NONA VERLOO - SLR-(916)445-0404

1. Is your state working on integrating vocational and academics?
YES
2. Who is doing it? What is the process?
STATE DEPARTMENT DEVELOPED MODEL CURRICULUM FRAMEWORK AND STANDARDS FOR EACH AREA
3. Is the process at the state or the local level?
BOTH
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, LOCAL ISSUE, DOE CAN SET STANDARDS BUT CAN'T MANDATE
   b. changing certification requirements for undergraduates, for counselors, for administrators, and SEPARATE COMMISSION HANDLING IT NOW
   c. establishing in-service for teachers in the field. LARGE NUMBER INSERVICE TO ESTABLISH PLANS
6. What else is being done regarding the integration of vocational education and academics? WILL BE IMPLEMENTING A TESTING PROCESS AND A PROGRAM CERTIFICATION BASED ON CURRICULUM FRAMEWORK.

COLORADO
DONNA FROST-BROOKHART-SLR-(303)620-4069

1. Is your state working on integrating vocational and academics?
YES, AT SECONDARY AND POSTSECONDARY
2. Who is doing it? What is the process?
AT THE POSTSECONDARY LEVEL BETWEEN CC AND HIGHER ED. PROCESS IS A FACULTY DRIVEN COOPERATIVE EFFORT WITH STATE DEPARTMENT BALANCE. AT K-12 LOOKING AT EQUIVALENCY AND BUSINESS TEACHERS SAT WITH CC TEACHERS AND WORKED OUT AN AGREEMENT. IF STUDENT HAS COMPLETED PERFORMANCE OBJECTIVES IN VOCATIONAL ED, THEN DOESN'T HAVE TO TAKE COURSE AT CC LEVEL.
3. Is the process at the state or the local level?
BASICALLY LOCAL
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, - DONE IN THE AREA OF ARTICULATION AND TRANSFER BETWEEN TWO AND FOUR YEAR COLLEGES

CONNECTICUT
JOAN BRIGGAMAN -SLR -(203)638-4112
1. Is your state working on integrating vocational and academics?
JUST GETTING STARTED WORKING ON PT - 2 OR 3 PILOT SCHOOLS FOR SCIENCE- LOTS OF CROSS-CREDITS IN STATE IN BUSINESS ED AND ACCOUNTING FOR MATH
2. Who is doing it? What is the process? LOCAL BOARDS DECIDE WHAT LIKE CURRICULUM IS, WITH STATED GOALS FROM STATE DEPT.
3. Is the process at the state or the local level? GRADUATION

REQUIREMENTS WERE INCREASED - MORE SCIENCE MATH, SOCIAL STUDIES, AND ONE VOCATIONAL COURSE. VOCATIONAL EDUCATION TEACHERS MOST INTERESTED IN THE PROCESS, BUT FORCED BY LEGISLATION.
5. What has been done in your state regarding:
a. providing academic credit for vocational programs, - CROSS CREDIT ON LIKE CURRICULUM
b. changing certification requirements for undergrads, for counselors, for administrators - NOTHING - NO INTENTIONS

DELAWARE
RACHEL J. WILLIAMS-SLR-(302) 736-4681

1. Is your state working on integrating vocational and academics? NO
2. Who is doing it? What is the process?
no one
3. Is the process at the state or the local level?
LOCAL, KIND OF
4. Do you have existing state board policy that can be shared? NO

FLORIDA
DAVID MCQUAT- SLR-(904)488-1831

1. Is your state working on integrating vocational and academics? FOUR PILOT SITES- 1 IMPLEMENTING ALL THREE APPLIED CURRICULUMS THIS WEEK
2. Who is doing it? What is the process? NO STATE COORDINATOR PER SE - ORIGINALLY WOULD HAVE BEEN A STATE COORDINATOR, BUT HASN'T BEEN NAMED. DOLLARS AVAILABLE FOR PILOT SITE WAS ANNOUNCED IN NOVEMBER OF '87. POTENTIAL SITES CAME FORWARD, 4 CHOSEN. SERIES OF AWARENESS MEETINGS WITH DR. GENE BOTTOMS. LOCAL DISTRICTS SENT POTENTIAL STAFF TO MEETINGS. PILOT SITES HAVE BEEN LEFT ON THEIR OWN TO PLAN IMPLEMENTATION FOR THEIR SITES. POPE COUNTY THE ONLY ONE THAT HAS SUBMITTED FULL PROGRAM.
3. Is the process at the state or the local level? LOCAL. 5 OR 6 PLANNING MEETINGS WITH STATE PERSONNEL.
4. Do you have existing state board policy that can be shared? STATE BOARD RULES.
5. What has been done in your state regarding:
a. providing academic credit for vocational programs,, SEVERAL ACADEMIC CREDIT OPTIONS (STATE BOARD RULES), BUT HAVE NOT BEEN UTILIZED BY LOCAL SCHOOLS BECAUSE OF HESITANCY ABOUT ARTICULATION WITH CC AND UNIVERSITY. COORDINATORS AT STATE LEVEL WILL INCREASE OPTIONS BECAUSE OF APPLIED CURRICULUM.
b. changing certification requirements for undergrads, for counselors, for administrators, CURRENTLY AT WAR! TEACHER INSTITUTIONS FIGHTING WITH A STANDARDS COMMISSION WHICH HAS RECOMMENDED LOWERING VOCATIONAL EDUCATION STANDARDS FOR CERTIFICATION. STATE DEPARTMENT FEELS THAT DUAL CERTIFICATION AND OPTIONS FOR ALTERNATIVE CERTIFICATION.
c. establishing in-service for teachers in the field.

IN-SERVICE FOR APPLIED CURRICULUM DONE BY AIA. IN-SERVICE WITH PILOT SITES DONE BY DEE WILDER - GENERAL AWARENESS. SOUTH CAROLINA STAFF DEVELOPMENT -NOT MUCH PLANNED AT STATE LEVEL.

GEORGIA
NORMA SPIVEY -SLR- (404)656-4059 send copy of paper.

1. Is your state working on integrating vocational and academics? APPLIED MATH, COMMUNICATIONS, PRINCIPLES OF TECH, BIOLOGY/CHEMISTRY
2. Who is doing it? What is the process? PRINCIPLES OF TECH - 26 SCHOOLS CURRENTLY INVOLVED - RON BARKER - IA ASST. STATE SUPERVISOR. FUNDING FOR LABS. COMMUNICATIONS, MATH, 18 PILOTS
3. Is the process at the state or the local level? STATE LEVEL, PILOTS
4. Do you have existing state board policy that can be shared? STATE BOARD APPROVES, FUNDING CENTER FOR APPLIEDS. USE STATE CONSULTANTS TO VISIT SCHOOLS AND PROVIDE ON-SITE HELP AND ARE IN CONTACT MONTHLY
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, OPTION FOR ACADEMIC CREDIT
   b. changing certification requirements for undergrads, for counselors, for administrators, ENCOURAGING ACADEMIC TEACHERS, NOT VOCATIONAL
   c. establishing in-service for teachers in the field. STAFF DEVELOPMENT INCLUDES ACADEMIC TEACHERS THAT WILL BE TEACHING THE COURSE
6. What else is being done regarding the integration of vocational and academics? EVALUATIONS FROM SURVEY DATA IN PILOTS, LONGITUDINAL STUDIES ANTICIPATED AS THE PROJECT EVOLVES.

IDAHO
DONALD ESHELBY -SLR- (208)334-3871

1. Is your state working on integrating vocational and academics? WORKING ON BASIC SKILLS - TEACHING APPLIED MATH, APPLIED COMM, PRINCIPLES OF TECH - TRYING TO UNIFY TEACHING -COLLEGIAL GROUPS OF VOCATIONAL AND ACADEMIC PEOPLE AT EACH SCHOOL WHO SIT DOWN ONCE A MONTH AND SHARE DELIVERY STRATEGIES. THIRD YEAR FOR BASIC SKILLS PROGRAM WITH 17 SCHOOLS. UNIVERSITY HAS UPPED REQUIREMENTS- VOCATIONAL COURSES AREN'T ACCEPTABLE FOR UNIVERSITY ENTRANCE.
2. Who is doing it? What is the process? NOTHING FORMAL- NOTHING DONE ON IDENTIFYING COMPETENCIES
3. Is the process at the state or the local level? UP TO INDIVIDUAL SCHOOL
4. Do you have existing state board policy that can be shared? NO POLICY
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs,

VOCATIONAL TEACHER HAS TO HAVE AT LEAST A MINOR IN THE ACADEMIC AREA
b. changing certification requirements for undergrads, for counselors, for administrators: PRE-SERVICE EMPHASIS ON A MINOR IN AN ACADEMIC AREA, BUT NOTHING FORMAL AS YET.

ILLINOIS
PEGGY POOL - SLR- (217)782-4620

1. Is your state working on integrating vocational and academics? YES, CONSORTIUM EFFORTS - CORD AND AIT- PRINCIPLES OF TECH, APPLIED MATH, APPLIED COMM. HAVE JOINED APPLIED BIOLOGY AND CHEMISTRY BUT NOTHING IS HAPPENING. FUNDED STATE UNIVERSITY TO SET UP DEMONSTRATION SITES WITH MATH AND COMMUNICATIONS.
4. Do you have existing state board policy that can be shared? LEGISLATURE - PRIMARY PURPOSES OF SCHOOLING - DID NOT INCLUDE VOC ED BUT CALLED IT A DELIVERY SYSTEM FOR MEETING LEARNING OUTCOMES-
5. What has been done in your state regarding:
a. providing academic credit for vocational programs- LOCAL BOARD DECISION WHETHER ACADEMIC CREDITS ARE GIVEN OR NOT - HALF USING PT OFFER ACADEMIC CREDIT, HALF OFFERING VOCATIONAL CREDIT
b. changing certification requirements for undergrads, for counselors, for administrators NOTHING BEING DONE AT THIS POINT-POTENTIAL LEGISLATION ESTABLISHES 9 PERSON PANEL (3 STATE DEPT, 3 FROM PROFESSIONAL ASSOC. 3 FROM BOARD OF HIGHER ED) TO IDENTIFY CURRICULUM IN VOCATIONAL EDUCATION TO MEET MINIMUM ENTRANCE REQUIREMENTS FOR UNIVERSITY.
6. What else is being done regarding the integration of vocational education and academics? ARTICULATION PROBLEMS - SWITCHING TO A REGIONAL SYSTEM. GAVE EACH CC A GRANT TO WORK WITH SECONDARY SYSTEMS ON ARTICULATION AGREEMENTS.

INDIANA
JAMES PERSHING -SLR - (812)335-6711

1. Is your state working on integrating vocational and academics? YES, PRINCIPLES OF TECHNOLOGY, BEGINNING FIELD TEST OF APPLIED MATH AND COMM.
2. Who is doing it? What is the process? INDIANA COMM. OF VOC/TECHNICAL PERSON INVOLVED IN WRITING PRODUCTS, ORCHESTRATED SELECTION OF PILOT SITES. THEY WILL USE CURRICULUM THIS YEAR, AND PROVIDE FEEDBACK. FROM THERE, IMPLEMENTATION IN WIDER SECTOR. CIRCULATE COPY OF CURRICULUM THROUGHOUT THE STATE. PROMOTIONAL CAMPAIGN.
4. Do you have existing state board policy that can be shared? INDIANA COMMISSION AND DEPT OF ED RECOGNIZED NEED FOR

INTEGRATION, AND HAS FUNDED PROJECT.
5. What has been done in your state regarding:
a. providing academic credit for vocational programs,- NOTHING YET- TOO EARLY
b. changing certification requirements for undergrads, for counselors, for administrators, TOO EARLY AS WELL - TEACHERS WHO WILL PILOT ARE ACADEMIC
c. establishing in-service for teachers in the field- 1 DAY WORKSHOP FOR PILOT TEACHERS

IOWA
VERNON FENNEL -SLR- (515)281-4704

1. Is your state working on integrating vocational and academics? YES, PT- 42 SITES. FIELD TESTING APPLIED COMM AND MATH - 4 IN EACH AREA, 1 OR SEVERAL CLASSES. DEPT PROVIDING MATERIALS, AND INTERVIEWING AND OBSERVING. INFUSING MATERIALS INTO VOCATIONAL EDUCATION
2. Who is doing it? What is the process?
EXCELLENCE MANDATE FROM DIRECTOR FOR CURRICULUM DEVELOPMENT. MATERIALS AS ONE OF THE THINGS USED TO UPGRADE CURRICULUM IN ALL AREAS.
3. Is the process at the state or the local level? LEGISLATIVE PACKAGE INCLUDING THREE PHASES: UPGRADING TEACHER SALARIES - PHASE III IS PAY FOR EXTRA WORK ON CURRICULUM DEVELOPMENT.
5. What has been done in your state regarding:
a. providing academic credit for vocational programs, DON'T KNOW (HAROLD BARRYMORE CONSULTANT FOR PT) 281-4711
b. changing certification requirements for undergrads, for counselors, for administrators, IF VOCATIONAL STANDARDS ARE CHANGED THEN CERTIFICATION WILL CHANGE -

KENTUCKY
JOHN HORTON -SLR-(502)564-2890

1. Is your state working on integrating vocational and academics? YES
2. Who is doing it? What is the process? SREB- IN TWO DISTRICTS, INTEGRATING BASIC SKILLS, AND REQUIRING PRE-REQUISITES IN ACADEMICS FOR VOCATIONAL STUDENTS, USING APPLIED MATH IN 7 SCHOOL DISTRICTS, PARTICIPATING IN APPLIED COMM, BUT NOT SCHOOLS USING IT AS YET- PT IN 10-12 SCHOOL DISTRICTS, BOTH IN LOCAL HIGH SCHOOLS AND AREA VOCATIONAL SCHOOLS. AG PROGRAM HAS REVIEWED CURRICULUM AND IDENTIFIED AREAS OF MATH AND SCIENCE , AND IN HOME ECONOMICS
3. Is the process at the state or the local level? STATE IS MANAGING AND IMPLEMENTING, BUT ACTUAL WORK IS DONE THROUGH TEAMS OF TEACHERS
4. Do you have existing state board policy that can be shared? NO POLICY AS SUCH, BUT A GOAL FROM VOCATIONAL EDUCATION

5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, NOTHING - SOME TALK ABOUT IT
   b. changing certification requirements for undergrads, for counselors, for administrators, NOTHING YET
   c. establishing in-service for teachers in the field- WHERE PROJECTS ARE IN PLACE - APPLIED MATH, PT, COMM, AND SREB SCHOOLS IN-SERVICE IS REQUIRED, OTHER TEACHERS ENCOURAGED TO ATTEND

MAINE
ROSANNE SCHACT -SLR- (207)289-5854

1. Is your state working on integrating vocational and academics? YES
2. Who is doing it? What is the process? TEAM TEACHING, INSTRUCTION DELIVERED BY A CERTIFIED VOCATIONAL TEACHER, ACADEMIC INSTRUCTION DELIVERED BY A RELATED SUBJECT INSTRUCTOR

MASSACHUSETTS
JOHN MCDONAGH (617) 770-7380 SLR

1. Is your state working on integrating vocational and academics? YES, LOCAL AUTONOMY SYSTEM - STATE/ LOCAL PARTNERSHIP-
2. Who is doing it? What is the process? FUNDED IDENTIFICATION OF MATH, SCIENCE COMPETENCIES AS THEY INTER-RELATE WITH OCCUPATIONAL COMPETENCIES. MODEL CURRICULA DEVELOPED. APPLIED PROGRAMS BEING FIELD-TESTED.
3. Is the process at the state or the local level? LOCAL SCHOOL SYSTEMS FUNDED BY STATE, TEAM APPROACH WITH ACADEMIC AND VOCATIONAL TEACHERS, WITH UNIVERSITY. OPPOSITE OF APPLIED PROGRAMS- THEY IDENTIFY ACADEMIC COMPETENCIES FIRST, THEN DEVELOP VOCATIONAL OVERLAPS.- WE DO THE OPPOSITE.
4. Do you have existing state board policy that can be shared? NOT REQUIRED, BECAUSE OF LOCAL AUTONOMY. SCHOOLS ARE REQUIRED TO HAVE A COURSE OF STUDY- STATE DEPT EVALUATES.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs - NOT AS FAR AS VERMONT- BATTLE BETWEEN SCHOOL ADMIN AND BOARD OF REGENTS. NOTHING FORMAL.
   b. changing certification requirements for undergrads, for counselors, for administrators- UP IN THE AIR AS WELL. ACADEMIC TEACHER CERT UNDERGOING SOME CHANGE - ISSUES OF TESTING, FOUR YEAR DEGREE, WITH EMPHASIS ON PEDAGOGY- VOCATIONAL TEACHER CERT EMPHASIZES WORK EXPERIENCE- CLOUDED ISSUE NOW
   c. establishing in-service for teachers in the field - LOTS GOING ON- ACTIVITY IN STATE-WIDE VOC CURRICULUM. CENTER, COMMONWEALTH IN-SERVICE INSTITUTE- PROPOSALS MUST SPRING FROM TEACHERS, DEVISED BY THEM, WITH

CERTAIN RESTRICTIONS. STATE-WIDE CONFERENCE, TECHNICAL COMMITTEES, INDUSTRY GROUPS.

6. What else is being done regarding the integration of vocational education and academics? PT, COMM, MATH, STATISTICAL PROCESS CONTROL - APPROACH TO QUALITY CONTROL (MANUFACTURING) RELATED TO QUALITY CIRCLES- JUST DEVELOPED CURRICULUM - WILL BE FIELD-TESTED THIS YEAR. (OHIO)

MISSISSIPPI
BECKY LOVE-WILKES -SLR-(601)325-2510

1. Is your state working on integrating vocational and academics? YES, BASIC VOCATIONAL- NINTH AND TENTH GRADE - HOME EC, AG, INDUSTRIAL ARTS SWITCHED TO BASIC ED CONCEPTS. SAME THINGS TAUGHT THE FIRST NINE WEEKS - BASIC SKILLS. ALSO USING PT - DIVERSIFIED TECHNOLOGY COURSE AT JUNIOR AND SENIOR LEVELS - FOR ACADEMICALLY TALENTED STUDENTS - EXPLORING AREA OF ACADEMIC CREDIT FOR SCIENCE. BASIC VOCATIONAL GETS ONE HOUR EVERY MORNING- CARNEGIE UNITS. PT COURSE CAN BE SUBSTITUTED FOR SCIENCE
2. Who is doing it? What is the process? INTEGRATION NEEDS IDENTIFIED IN A NEEDS ASSESSMENT, DEVELOPED INSTATE, CURRICULUM WRITTEN BY RESEARCH CENTER, ADMINISTERED THROUGH STATE DEPT.
3. Is the process at the state or the local level? COURSES SUPERVISED THROUGH STATE DEPT., CURRICULUM WRITTEN AT RESEARCH CENTER.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, ACADEMIC CREDIT PROVIDED FOR BOTH DIVERSIFIED TECH AND BASIC SKILLS
   b. changing certification requirements for undergrads, for counselors, for administrators, PRE-SERVICE: IN TECH THERE'S A SPECIAL IN-SERVICE THAT OFFERS 3 HOURS COLLEGE CREDIT
   c. establishing in-service for teachers in the field? OFFER IN-SERVICE

NEBRASKA
ANN MASTERS -SLR- (402)471-4816

1. Is your state working on integrating vocational and academics? YES
2. Who is doing it? What is the process? ON A LIMITED SCALE WITH APPLIED COMMUNICATIONS, MATH AND PT.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, WORKING ON IT, UNSUCCESSFULLY SO FAR. APPLIED COMM WILL RECEIVE CREDIT IF TAUGHT BY AN ENGLISH TEACHER

MISSOURI-
HARLEY SCHLICHTING-SLR-(314)882-2841

1. Is your state working on integrating vocational and academics? YES, LOTS OF TALK AND STUDIES. TRYING TO PULL OUT ACADEMIC COMPETENCIES IMPLEMENTED PT, APPLIED COMM, APPLIED MATH IN THE PROCESS.
2. Who is doing it? What is the process? CORE COMPETENCIES AND KEY SKILLS - GENERAL ED AND GRADES 2-10. LANGUAGE ARTS, SOCIAL SCIENCE, MATH. BASIS FOR COMPARISON. (TESTED 38,000 STUDENTS ON THE IDENTIFICATION)
3. Is the process at the state or the local level? MANDATED BY STATE LAW- EXCELLENCE IN EDUCATION ACTS.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, STATE LAW ALLOWS 3 YEARS OF AG TO EQUAL 1 YEAR OF SCIENCE.
   b. changing certification requirements for undergrads, for counselors, for administrators, AS OF SEPT 1, LIFE CERTIFICATES HAVE BEEN ELIMINATED. CAREER LADDER. NOTHING BEEN DONE ABOUT UPGRADING VOCATIONAL TEACHERS' SKILLS IN ACADEMICS.
   c. establishing in-service for teachers in the field. EACH SERVICE AREA DOES THEIR OWN- LOTS ON INSTRUCTIONAL MATERIALS MODEL. COMPETENCY-BASED, OUTCOME ED. MOSTLY STATE DEPT-DIRECTED, BUT NOT DELIVERED.

NEVADA
KEITH RHEAULT -SLR-(702) 885-3144

1. Is your state working on integrating vocational and academics? YES
2. Who is doing it? What is the process? APPROVED BY STATE BOARD AS OF SEPT OF 87, TO ALLOW FOR ACADEMIC CREDIT FOR VOCATIONAL PROGRAMS. EMPHASIS ON LOCAL DISTRICTS TO APPROVE COURSES, DECIDE WHICH GET CREDIT. INCREASE IN GRAD REQUIREMENTS CAUSED THIS SWITCH.
3. Is the process at the state or the local level? LOCAL DISTRICTS ARE IDENTIFYING AND CERTIFYING. 1 SCHOOL HAS COMPLETED PROCESS. (SEND COPY OF TAXONOMY TO KEITH) WILL IMPLEMENT APPLIED MATH AS A PILOT IN 5 DISTRICTS. APPLIED COMM, PT ALSO BEING IMPLEMENTED, BUT NO PILOTS AS YET. NO CURRICULUM DEVELOPED IN STATE. EMPHASIS ON ACADEMICS.
5. What has been done in your state regarding:
   b. changing certification requirements for undergrads, for counselors, for administrators, REVISING CERTIFICATION REQUIREMENTS IN PROCESS. WENT BEFORE LEGIS. COUNCIL LAST WEEK. WILL START NEXT YEAR. SEPARATE BOARD HANDLES CERTIFICATION QUESTIONS.

c. establishing in-service for teachers in the field.
PLANS AFOOT FOR VOCATIONAL/ACADEMICS INCLUDED IN VOC CURRICULUM TO BE ADOPTED, PLANS FOR IN-SERVICE. AT THE MOMENT, WORKSHOPS ON APPLIED MATH ARE IT.

NEW MEXICO
DARRELL JONES- SLR- (505)827-6646 MESSAGE 8/26

1. Is your state working on integrating vocational and academics?
(RESISTANCE FROM ACADEMIC PEOPLE)
2. Who is doing it? What is the process?
WRITTEN 3-PART PROCESS: VOCATIONAL AND ACADEMIC SPECIALISTS MEET, AND AGREE WHAT 3 DISTRICTS WILL ANALYZE COMPETENCIES (COMPETENCIES IN BOTH AREAS ALREADY IDENTIFIED) HEAD OF ENGLISH STAFF MEETS WITH VOCATIONAL DISCIPLINE TO REVIEW COMPETENCIES. IF AGREEMENT IS REACHED, DARRELL JONES MEETS WITH DISCIPLINE AREA, WRITE UP SUMMARY, RECOMMEND TO HEAD OF INSTRUCTIONAL DIVISION THAT IT BE APPROVED. SO FAR, FIVE: MARKETING/ECONOMICS, AG/COMMUNICATIONS, IA/MATH, HOME EC/MATH OR COMM, BUSINESS ED/ENGLISH. ONE PROGRAM AREA PER YEAR.
3. Is the process at the state or the local level? STATE MANDATE TO LEARN ECONOMICS - ASSIGNED TO HISTORY.
4. Do you have existing state board policy that can be shared?
GRADUATION REQUIREMENTS RAISED- CAUSED LOSS OF PROGRAMS IN 5.
What has been done in your state regarding:
a. providing academic credit for vocational programs,
APPROVED AS DESCRIBED.
b. changing certification requirements for undergrads,
for counselors, for administrators
c. establishing in-service for teachers in the field.
HOME EC/ENGLISH DUAL TRAINING WORKSHOP ALREADY HAPPENED - EFFORTS TO INSTITUTE IN OTHER AREAS.

NEW JERSEY
DORIS DOPKIN -SLR- (609) 292-5622

1. Is your state working on integrating vocational and academics?
SOME SCHOOLS HAVE INTEGRATED TO REINFORCE BASIC SKILLS. ANYTHING BEING DONE IS ON AN INDIVIDUAL BASIS. NOTHING ORGANIZED AT THIS POINT.

NORTH CAROLINA
MEG MURPHY -SLR- (919) 733-7094

1. Is your state working on integrating vocational and academics?
YES
2. Who is doing it? What is the process?
EXTENSIVE STATEWIDE R&D PROJECTS TO IDENTIFY COMPETENCIES AND ESTABLISH MATRICES ETC. AT THE LOCAL LEVEL
3. Is the process at the state or the local level? COOPERATIVE WITH STATE LEVEL LEADERSHIP

5. What has been done in your state regarding:
   a. providing academic credit for vocational programs,
   CREDIT AT THE LOCAL LEVEL
   b. changing certification requirements for
   undergraduates, for counselors, for administrators,
   REQUIRES DOUBLE MAJOR IN SOME INSTANCES and
   c. establishing in-service for teachers in the field
   MUCH ACTIVITY ONGOING.
6. What else is being done regarding the integration of vocational education and academics? MEMBERS OF MAJOR CONSORTIUMS AND OTHER APPLIED EFFORTS.

NORTH DAKOTA
RON MEHRER- SLR- (701)224-3195 - ******SEND REPORT *****

1. Is your state working on integrating vocational and academics? YES!
2. Who is doing it? What is the process? JOINED ALL CONSORTIUMS -POT, APPLIED MATH, APPLIED COMM, APPLIED SCIENCE/BIO, MEMBER OF CONSORTIUM ON INDUSTRIAL TECH- AIT/ DEVELOPING NO CURRICULUM- USING CONSORTIUMS .PILOTING MATH AND COMM IN TWO SCHOOLS- ONE STAND-ALONE FOR VOC STUDENTS- TEACHER CERTIFIABLE IN ACADEMIC FILED. IN OTHER PILOT, INTEGRATED INTO EXISTING PROGRAM - VOC/ED TEACHER AND MATH TEACHER TEAM-TEACHING. PT- IMPLEMENTING, ESTABLISHED IN 25 OR SO SCHOOLS.
3. Is the process at the state or the local level? PROCESS INITIATED AT STATE BOARD LEVEL. STAFF PERSON COORDINATED SETTING UP PILOT.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs,
   CROSS-CREDIT: NOTHING BUT TALK RIGHT NOW.
   c. establishing in-service for teachers in the field.
   AIT AND CORD HAVE ORIENTATION SESSIONS- ONE ,TWO WEEK OR SIX WEEK INSERVICE IN LABS - WHERE LABS ARE SET UP AS IN THE HIGH SCHOOL. TEACHERS DOING SAME THINGS AS STUDENTS.

TENNESSEE
LYNN COHEN -SLR-(615) 741-1819

1. Is your state working on integrating vocational and academics? YES
2. Who is doing it? What is the process? VOCATIONAL DIVISION, IDENTIFICATION OF BASIC SKILLS BASED UPON CURRICULUM FRAMEWORK FROM GENERAL ED. OVERLAP WHERE RELATED OBJECTIVES TIE IN. IN VOCATIONAL CURRICULUM GUIDE (GUIDE DEVELOPER MAKES THE ID). IF BASIC SKILLS AREN'T IDENTIFIED IN GENERAL ED, THEY ARE PICKED UP IN VOC. ED. DEVELOPING IN-STATE CURRICULUM. APPLIED COMM, PT, APPLIED MATH AS WELL. ALL UNDER PILOT. PT WILL BE INCORPORATED THIS NEXT YEAR. INCORPORATED AS STAND-ALONE COURSES.

3. Is the process at the state or the local level? STATE LEVEL-
4. Do you have existing state board policy that can be shared?
STATE BOARD OF REGENTS AND UNIVERSITY HAVE APPROVED AG SCIENCE COURSE AS A SCIENCE CREDIT.
5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, CREDIT ON BASIC SKILLS ID ARE VOCATIONAL EDUCATION PT, APPLIED MATH ARE ACADEMIC CREDIT (NOT SURE ABOUT APPLIED MATH) - ARTICULATION? APPLIED COMM IS BEING WORKED ON AS AN ENGLISH CREDIT. (HAVING TO EXPAND THE COURSE, HOWEVER) FUNDED THROUGH VOCATIONAL, BUT CONSIDERED ACADEMIC CREDIT. OCCASIONALLY, EXISTING VOCATIONAL COURSES ARE CONSIDERED A CROSS BETWEEN A GENERAL ED COURSE AND VOCATIONAL, EXAMPLE - AG SCIENCE COURSE. (PILOTED THIS YEAR). COURSE MATERIAL DEVELOPED JOINTLY BETWEEN SCIENCE AND AG PEOPLE.
   b. changing certification requirements for undergrads, for counselors, for administrators- TO TEACH BASIC SKILLS COURSES THE TEACHER NEEDS TO BE CERTIFIED IN BOTH FIELDS. PT, APPLIED MATH, APPLIED COMM. NEED GENERAL ED CERTIFICATION (ALTHOUGH EXCEPTIONS CAN BE MADE THROUGH ASSISTANT COMMISSIONER.)
   c. establishing in-service for teachers in the field- IN-SERVICE FOR BASIC SKILLS AND SERB.

VERMONT
MOIRE COLEMAN - SLR- (802) 828-3101

1. Is your state working on integrating vocational and academics?
YES
2. Who is doing it? What is the process?
APPLIED MATH, COMM, PT, BIO/CHEM. UNDER LEGISLATION, ALL VOCATIONAL PROGRAMS ARE ANALYZED FOR GENERAL ED CONTENT, AND ACADEMIC CREDIT AWARDED. MATH CREDIT FOR ACCOUNTING. STANDARD SET OF PROCEDURES. USE COMPETENCY-BASED ED- PROCESS-ORIENTED APPROACH. APPLIED ACADEMIC SUPPORT UNIT.
3. Is the process at the state or the local level? STATE LEGISLATION.

5. What has been done in your state regarding:
   a. providing academic credit for vocational programs, SEE VO-TECH HANDBOOK
   b. changing certification requirements for undergrads, for counselors, for administrators - IF YOU ARE A VOCATIONAL TEACHER, YOU DON'T HAVE TO BE CERTIFIED IN GENERAL ED. IF YOU TEACH APPLIED COMM, AS A SEPARATE COURSE, YOU NEED CERTIFICATION IN THE ACADEMIC FIELD. LOTS OF APPLIED TEACHERS ARE CERTIFIED IN BOTH. A "NON-ISSUE". COMMUNICATIONS ENGLISH THE MOST CONTROVERSIAL ISSUE.

c. establishing in-service for teachers in the field - APPLIED IN-SERVICE THIS SUMMER. JOINT EFFORTS WITH GENERAL, VOCATIONAL ED. COOPERATION BETWEEN BOTH SIDES STRONG.

WASHINGTON
WALT WONG -SLR- (206) 753-5676
PUBLISHED BOOKLET ON INTEGRATION OF BASIC SKILLS-WILL SEND

WYOMING
MR. GAYLE LAIN - SLR- (307) 777-7415

1. Is your state working on integrating vocational and academics?
CORD - APPLIED MATH, PT, APPLIED COMMUNICATIONS. (APPLIED BIO THIS YEAR) U OF WYOMING WORKING WITH DEPT. STAFF DEVELOPMENT. 15 PROJECTS. MOSTLY PT. OPERATING IN SCHOOL DISTRICTS.
5. What has been done in your state regarding:
a. providing academic credit for vocational programs, CREDIT IS OPTIONAL AND DETERMINED AT LOCAL LEVEL.
b. changing certification requirements for undergrads, for counselors, for administrators-HAVEN'T BEGUN TO DEAL WITH IT YET. IN ALL PILOTS, TEACHERS HAVE BEEN CERTIFIED IN BOTH.
c. establishing in-service for teachers in the field- DEPT OF ED DOESN'T DO IT, BUT PERKINS FUNDING OR U OF WYOMING STAFF DEVELOPMENT. ACTIVITIES. DEPT BROKERING.